

Claim 15, line 5, change "assembly" to --housing--.

Claim 20, line 3, change "seals", first occurrence, to --seal-bearing module--.

REMARKS

This response follows an Office Action of January 27, 1994. The Applicant notes with appreciation the allowable subject matter in this case. By this amendment it is believed that the issues addressed by the Examiner have been appropriately dealt with and all claims are now allowable.

Dealing with the issues in the order raised, it is recognized that the drawings as originally filed are informal and formal drawings are attached given the finding of allowable subject matter in this application. The lead lines for elements 28 and 30 have been corrected as indicated in the attached formal drawing of Fig. 1, which shows the correct position of the lead lines for both of the those elements as they existed in the informal drawings.

In the specification, the word "effluent" has been corrected. It is believed that the description of Fig. 2 on page 7, lines 29-33 is correct. Two seal assemblies are depicted, seal assembly 62 is shown as in place in the housing 60 and seal assembly 64 is shown removed but, in the position for insertion into the end housing. Consequently while the seal assemblies are identical they have been given different numbers in the figure. It is believed that the number 62 is only used once, that to denote the right hand assembly which is already positioned in the end housing 60.

The number 104 was present in the informal drawings albeit somewhat obscured, and in the formal drawing of Fig. 1, it has been repositioned.

The awkward sentence on page 10, lines 16-18 has been corrected.

The Applicants respectfully traverse the Examiner's objection to the specification under 35 U.S.C. 112, first paragraph.

It is believed that the description of the placement of the dynamic race 82 is correct. As shown in Fig. 2 the race 82 is positioned between the spring 80 in the space defined between the cylindrical portion 78 and the flange portion 76. Presumably the Examiner criticizes the accuracy of the word "between" to avoid any remaining issue, it has been changed to "proximate". With respect to the definition of the labyrinth in claims 5, 8 and 15, that structure is distinguishable from the seal. It is identified on page 9 and illustrated as element 102. It is a wear component positioned separately from the seal defined in claims 1 and 11.

The seal defined in claims 10 and 20 is the elements 70, 72 found on page 8 at lines 6-7. To clarify those two claims appropriate changes have been made and such are self-apparent.

With this explanation and changes, where appropriate, it is believed that the rejection to claims 3, 5, 8, 10, 13, 15 and 20 under 35 U.S.C. 112, first paragraph, has now been rendered moot and should be removed.

Claims 1-10 and 15 stand rejected under 35 U.S.C. 112, second paragraph. The Examiner has rendered three criticisms to the

claims which have been dealt with by appropriate changes. Such are self-explanatory and it is believed that upon consideration of such by the Examiner, the rejection under 35 U.S.C. 112, second paragraph, will be removed.

Remaining then for consideration are the rejections in paragraphs 7 and 8. Each is respectfully traversed.

With respect to Potts, there is no disclosure in the reference that specifies, either in writing or illustrates, modular seal-bearing assemblies which combine seals and bearings in one unit as a sub-assembly that are mountable on each of the shafts to isolate fluid in the housing. The most pertinent is Fig. 8 and totally lacks any description concerning construction of the end units. From the drawings it is not seen where there is any insertable preassembled bearing elements mounted in each of the end housings. This is simply totally devoid of any teaching either written or pictorially which would allow one of working skill to conclude that the modularized assemblies defined by claims 1 and 11 are in any way present. Claims 1 and 11 require the combination of a seal element and a bearing element in the context of a preassembled modularized configuration. Potts is totally devoid of any such teaching. At best one is left to infer or speculate how the device is constructed at the end of the cutter elements.

Flament is no more pertinent. Figures 2 and 3 are most relevant. The seal assembly area, as illustrated in Fig. 3, and includes sealing ring 24C together with a bearing 23 and those elements are individually mounted as the device is built-up and do

not form a preassembled configuration. From Fig. 3 and the discussion in Col. 3, lines 32-37, in particular, it can be that the elements are assembled in a serial fashion directly on the shafts 29-30. This in turn highlights an important advantage of the system defined by this invention. In Flament the stack cannot be tightened. In this invention the presence of the center sleeve axially through the cartridge permits external tightening of the stack. It is well known that communitor performance is directly related to stack tightness and thus this modular assembly offers an important advantage over Flament.

While it is true that the Examiner has drawn the line of patentability with respect to claims 1 and 2 by allowing claims 2 and 12 as defining the elements as comprising "a seal cartridge" it would appear that the Examiner has not given due consideration to the language in claims 1 and 11 calling for, in the case of claim 11, "a seal-bearing module a pair of insertable pre-assembled bearing assemblies mountable in each of said end housings---". Flament does not show that structure.

Further, with respect to the rejection of claims 6 and 16 the inspection port required is "in said gear means". This inspection port is illustrated in the drawings as element 108 for a specific purpose. The Examiner's holding that the cover 14 functions as a port will not satisfy the requirements of claims 6 and 16. Assuming that the Examiner is correct that the end plate 14 can be removed, it is the point in the assembly furthest removed from the gear train which is at the upper end of the unit.

The gears are identified as element 18 and thus the cover plate 14 could not reasonably be associated with the gears or provide any technique of inspection of the gears themselves given that configuration. The Examiner should also note that the bottom cover plate also utilizes a gasket 13 to effectuate a seal. Once assembled there is no intent to dismantle for routine inspection. Consequently, it is not even intended for purposes of functioning as an inspection port. The holding on those claims is therefore respectfully traversed.

Concerning claims 10 and 20, it is apparent that with the amendment to overcome the rejection under 35 U.S.C. 112, second paragraph, the patentable subject matter disclosed therein would now be apparent.

In summary then, the Applicant respectfully contends that this response addresses each and every issue and should result in the allowance of claims 1-20. Again, while it is noted with appreciation that substantial allowable subject matter exists in the case, it is believed that the claims which stand rejected are now allowable.

Should the Examiner have any questions or wish to discuss this case, he is requested to call the undersigned attorney at the local exchange listed below.

Respectfully Submitted,

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